

TWO NEW SPECIES OF *FIMBRISTYLIS* (CYPERACEAE) FROM WESTERN PENINSULAR INDIA¹

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(With two text-figures)

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Two new species of *Fimbristylis* from western peninsular India are described and illustrated: *F. ambavanensis* from Maharashtra state and *F. simpsonii* from Karnataka state.

While working on the genus *Fimbristylis* Vahl in western peninsular India, some specimens were found to be of doubtful identity, as they did not match with the specimens and descriptions of any of the known species. The specimens were sent to Kew, where these could not be matched or identified either, and were returned to the authors. Based on these specimens, two new species are described here.

Fimbristylis ambavanensis V.P. Prasad & N.P. Singh sp. nov. (Fig. 1)

F. capilliculmis Ohwi affinis, sed foliis latoribus, stamine singulari, stylo brevior et nucis magniore differt.

Glabrous annuals with fibrous roots, ca 25 cm high. Stems tufted, slender, compressed, more or less flat below the inflorescence, ca 0.5 mm thick, striate. Leaves shorter than or as long as the stem, flat, linear, abruptly acuminate at apex, 6-18 cm long, ca 1 mm wide; margins infolded and thickened on the upper surface, smooth; sheaths chartaceous, striate, up to 6 cm long; ligule a fringe of short hairs; orifice membranous, oblique, minutely ciliate. Inflorescence simple or compound, lax, 0.8-1.5 cm long and as wide, with 3-12 spikelets. Involucral bracts 2-3; lowest overtopping the inflorescence, linear, 1-2.5 cm long. Primary rays 2-7, unequal, compressed, striate; longest 0.3-1 cm long. Spikelets solitary, rarely paired, ovoid to oblong-lanceolate, acute at apex, faintly angled, 3-4 x 1.5-2 mm, brown, few flowered; rachilla winged. Glumes spiral, membranous, ovate, mucronulate, keeled, ca 2 x 1.5 mm, brown, not prominently hyaline towards the margin. Stamen 1; filament hyaline, elongate up to 1.5 mm; anther linear-oblong,

acute at apex, ca 0.5 mm long. Ovary oblong, ca 0.5 mm long, stipitate; style trigonous, pyramidally thickened at base, ca 1 mm long, glabrous; stigmas 3, slightly shorter than or as long as the style, scabrous. Nuts trigonous, obovoid, umbonulate, ca 1 x 0.6 mm, shortly stipitate, smooth, creamish-white; epidermal cells transversely oblong, in 6-8 vertical rows on each face.

Fl. & Fr.: September

Habitat: Material was collected from the top of a fort where it was common.

Holotype: INDIA, Maharashtra State, Pune dist., Mulshi Taluka, Ambavane, 6.ix.1964, Coll. B. Venkatta Reddi 99049 (CAL).

Isotypes: 99049A & 99049B (BSI).

Fimbristylis ambavanensis is allied to *F. capilliculmis* Ohwi, a Malesian species, but differs in a few characters which are shown in Table 1.

TABLE I

<i>F. capilliculmis</i> Ohwi	<i>F. ambavanensis</i> sp. nov.
Leaves ca 0.5 mm wide	Leaves ca 1 mm wide
Spikelets solitary	Spikelets solitary or paired
Stamens 2-3	Stamen 1
Style ca 1.5 mm long	Style ca 1 mm long
Nut up to 0.7 mm long	Nut ca 1 mm long

Note: The specimens were compared with the illustration and description of Ohwi (1955) and Kern (1974) for *Fimbristylis capilliculmis* Ohwi.

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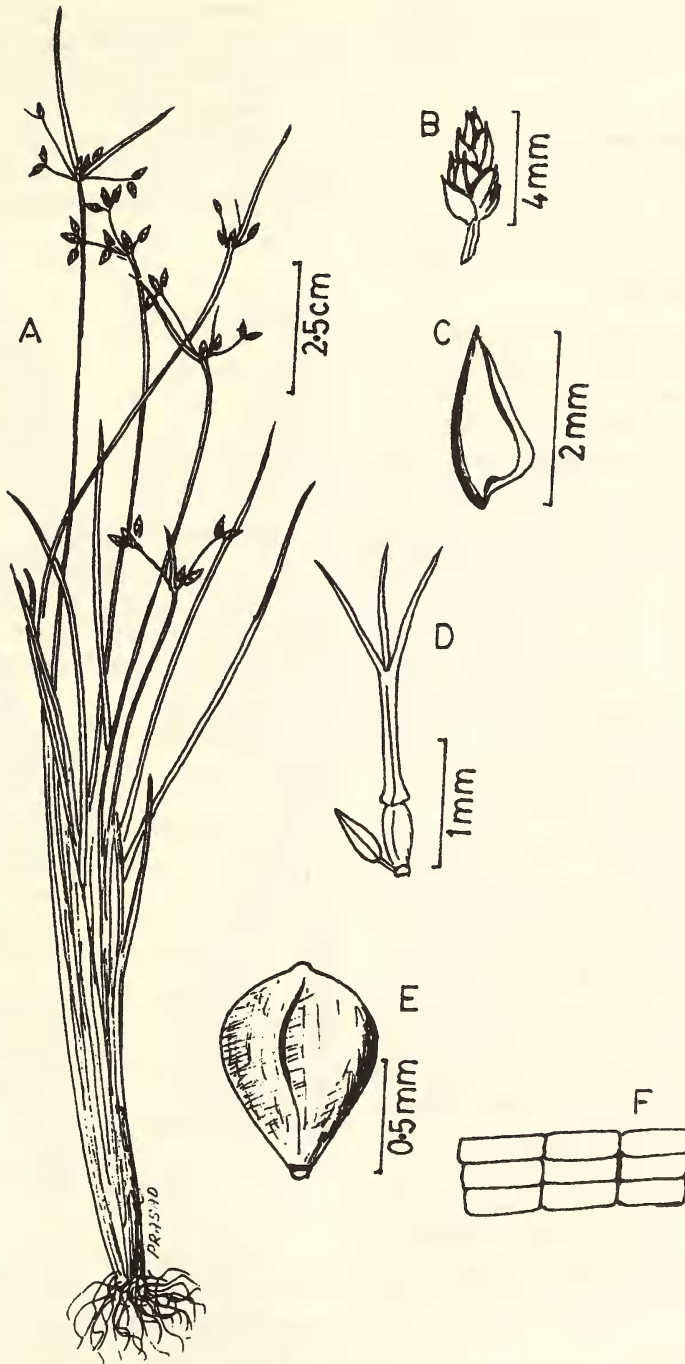


Fig. 1: *Fimbristylis ambavanensis* V.P. Prasad & N.P. Singh, *sp. nov.*
 A. Habit; B. Spikelet; C. Glume; D. Flower; E. Nut; F. Epidermal cells on the nut.

Etymology: The species name is derived from Ambavane, the collection site of the holotype.

Fimbristylis simpsonii V.P. Prasad & N.P. Singh sp. nov. (Fig. 2.)

Fimbristylis bispicula Govind. affinis, sed inflorescentia spicula 1-3, staminis 3, antheris et stylis longioribus differt.

Glabrous annuals with fibrous roots, ca 9 cm high. Stems tufted, slender, trigonous below the inflorescence, deeply furrowed below, 0.2-0.5 mm thick. Leaves numerous, half to $\frac{3}{4}$ the length of the stem, flat, uniformly linear, abruptly acuminate at apex, 2.5-6.5 cm long, 0.7-1.2 mm wide, with slightly thickened margins; sheaths chartaceous, up to 1.5 cm long; ligule a fringe of short hairs. Orifice membranous, ciliate. Inflorescence simple, with 1-3 spikelets, 5-8 mm long, 6-13 mm wide. Involucral bracts 1 or 2, much shorter than or as long as the inflorescence, short laminate or glume-like with an awn, 2-7 mm long. Rays if present trigonous, striate, 2-4 mm long. Spikelets solitary, ovoid to oblong-lanceolate, acute at apex, slightly angled, 3-4 x 1-1.5 mm, brown, few-flowered. Rachilla winged. Glumes spiral, ovate, acute-mucronate at apex, strongly keeled, 1.8-2 x 1.2-1.5 mm, hyaline towards margins but brown lineolate. Stamens 3; filaments hyaline, elongate up to 2 mm; anthers linear-oblong, subacute at apex, ca 0.6 mm long. Ovary linear-oblong, ca 0.5 mm long; style triquetrous, slightly thickened towards the base, ca 1.2 mm long, brownish, glabrous; stigmas 3, about half the length of the style, scabrous. Nuts trigonous with 2 convex faces and 1 flat face, obovoid, minutely umbonulate, shortly stipitate, 0.8-1 x 0.6-0.7 mm, smooth or verruculose, creamish-white; epidermal cells transversely elongated, in ca 4 vertical rows on each face.

Fl. & Fr.: August

Habitat: Rocky slopes near rivulets. Very common.

Holotype: INDIA, Karnataka state, Shimoga dist., Tirthahalli, Kanagalgudda. 19.viii.1963. Coll. R. Sundara Raghavan 90025 (CAL).

Isotype: 90025 A (BSI).

Fimbristylis simpsonii shows close affinity to *F. bispicula* Govind. in many respects but differs in the following characters (Table 2).

TABLE 2

<i>F. bispicula</i> Govind.	<i>F. simpsonii</i> sp. nov.
Inflorescence one pair of spikelets	Inflorescence with 1-3 spikelets
Stamens 2	Stamens 3
Anthers 0.2-0.3 mm long	Anthers ca 0.6 mm long
Style ca 1 mm long	Style ca. 1.2 mm long

F. simpsonii can also be compared with *F. tenera* R. & S., which has no ligule but has more spikelets, larger involucral bracts, rays, spikelets and glumes, smaller number of stamens and hexagonal epidermal cells in 8-10 vertical rows on the nut.

Etymology: This species is named after Dr. David Simpson, Royal Botanic Gardens, Kew in honour of his valuable work on aquatic angiosperms and on family Cyperaceae.

With the addition of these 2 species, the total number of endemic species of *Fimbristylis* in peninsular India has increased to 39, and for the whole of India 48. It may be mentioned that Prasad & Singh (1997a) reported 30 endemic species of *Fimbristylis* from peninsular India and 37 from the whole country, and later on updated the numbers as 37 and 46 respectively (Prasad & Singh 1997b).

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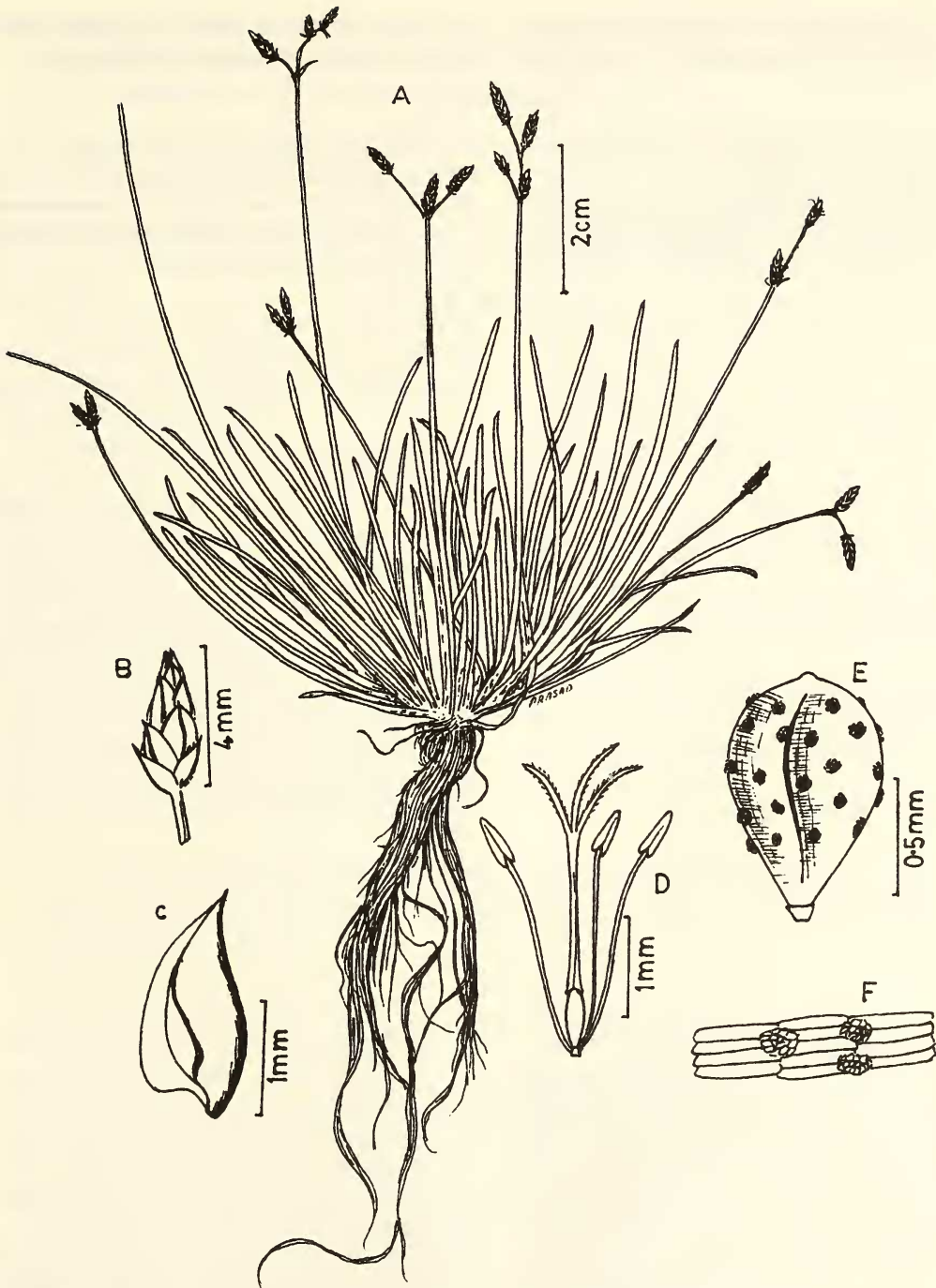


Fig. 2: *Fimbristylis simpsonii* V.P. Prasad & N.P. Singh, *sp. nov.*
A. Habit; B. Spikelet; C. Glume; D. Flower; E. Nut; F. Epidermal cells on the nut.

NEW DESCRIPTIONS

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REFERENCES

- KERN, J.H. (1974): Cyperaceae. In: van Steenis, *Flora Malesiana* 1, 7: 549.
- OHWI, J. (1955): Florae Malesianae praecursores IX. New Malesian species of *Fimbristylis*. *Blumea* 8(1): 99.
- PRASAD, V.P. & N.P. SINGH (1997a): Notes on the distribution and endemism of Indian *Fimbristylis*. *J. Bombay nat. Hist. Soc.* 94(1): 22-26.
- PRASAD, V.P. & N.P. SINGH (1997b): Two new species of *Fimbristylis* (Cyperaceae) from Maharashtra, India. *J. Econ. Tax. Bot.* 21(3): 671-675.

